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Department of Energy

ROCKY FLATS FIELD OFFICE
10808 HIGHWAY 93, UNIT A
GOLDEN, COLORADO 80403 8200

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CROCKETT, G. A.		
DECK, C. A.	X	
DEGENHART, K. R.		
DIETER, T. J.		
DIETERLE, S. E.		
FERRERA, D. W.		
FERRI, M. S.		
GERMAIN, A. L.		
GIACOMINI, J. J.		
ISOM, J. H.		
LINDSAY, D. C.	X	
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	
NAGEL, R. E.	X	
NORTH, K.	X	
PARKER, A. M.	X	
POWERS, K. P.		
RODGERS, A. D.		
SHELTON, D. C.	X	
SPEARS, M. S.		
TRICE, K. D.		
TUOR, N. R.	X	
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DOE ORDER #

54001

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NOTIFICATION OF REPORTABLE SURFACE - WATER MONITORING RESULTS
AT RFCA POINT OF EVALUATION GS10

Pursuant to the *Rocky Flats Cleanup Agreement (RFCA), Attachment 5, Rocky Flats Environmental Technology Site Action Levels and Standards Framework for Surface Water, Groundwater, and Soils (ALF), Part 2 4B*, the Department of Energy, Rocky Flats Field Office (RFFO) is notifying you of water-quality monitoring results at the Rocky Flats Cleanup Agreement (RFCA) Point of Evaluation (POE) surface-water monitoring station GS10, which is located in the South Walnut Creek upstream of Pond B-1 in Walnut Creek basin. The RFFO gained knowledge of the reportable value on May 2, 2003. Preliminary written notification was provided to both agencies by email message on May 2, 2003.

The calculated 30-day moving average for plutonium-239, 240 (Pu) triggered the reporting requirements under RFCA Attachment 5, Section 2.4 (B) for the period March 9, 2003, through March 22, 2003, inclusive, using validated data. Additional data recently received but not validated extends the event through March 30, 2003, (for details, see Table 1). As of March 30, 2003, the 30-day average for Pu remained at a reportable level. The calculated 30-day moving average for americium-241 (Am) was not above reportable levels during the same period. The end of the reportable period will be determined when the Site receives subsequent analytical results. Analytical results for all samples that were used in the calculation are listed in Table 2.

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This newest GS10 reportable event is consistent with seasonal water-quality observations made every spring/summer since 1997 at this location, following implementation of RFCA flow-paced monitoring

Table 1 – Reportable 30-Day Average Values for RFCA POE Monitoring Location GS10

Analyte	Dates of Reportable Value	Range of Reportable 30-day Avg. Values (pCi/L)
Plutonium	3/9/03 – to be determined	0.16 – 0.52

Table 2 – Validated Analytical Results for Composite Samples Collected at GS10 Used in the 30-Day Average Calculations.

Composite Sample Start Date	Americium Analytical Result (pCi/L)	Plutonium Analytical Results (pCi/L)
12/17/02	0.118	0.065
2/10/03	0.002	0.063
3/3/03	Rejected result by validation process	0.642
3/20/03	Rejected result by validation process	0.048
3/22/03	0.050	0.084
3/23/03 (sample not validated as of 5/8/03)	0.051	0.089

RFCA Reporting Protocol

To meet the Site's RFCA commitment, DOE must transmit this information to the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) within the 15-day reporting period, which ends May 19, 2003. In addition, RFCA also requires that the DOE, within 30 days of gaining knowledge of the reportable results, submit to EPA and CDPHE a source evaluation plan and schedule addressing this reportable value. This plan must be transmitted by June 2, 2003. This letter serves as notification and addresses the requirement for a source evaluation plan and schedule.

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Downstream Water Quality Monitoring

Water flowing through GS10 also passes through the lower B-series ponds (Ponds B-4 and B-5) and South Walnut Creek before leaving the Site. RFCA Points of Compliance (POCs) GS08 (Pond B-5 outlet) and GS03 (Walnut Creek at Indiana St.) again monitor this water. GS10 analytical results and the reportable 30-day average values were compared with those for pre-discharge samples collected from Pond B-5 prior to the March – April 2003 direct discharge and from RFCA POC monitoring stations GS08 and GS03 for that discharge (3/24 – 4/10/03). Monitoring results from Pond B-5 (predischage sample), the first four POC GS08 composite samples (of 5), and all composite samples from POC GS03 were below reporting thresholds for the same period. Discharge monitoring results for the last composite sample from POC GS08 had not been received by the Site as of May 13, 2003.

Ongoing GS10 Source Investigation

The Department of Energy (DOE) and its contractor completed the latest of six special source investigation reports for the GS10 sub-drainage in August 2001. This investigation, the *Final Source Evaluation Report for Point of Evaluation GS10 Water Years 2000 – 2001*, was guided by the *Sampling and Analysis Plan for Automated Synoptic Surface-Water and Sediment Sampling for the GS10 Source Investigation*. This investigation was designed to identify location-specific subdrainage areas that may contain source areas or “hot-spots” and further define or resolve the location of discrete “americium-enriched” source areas.

The CDPHE also conducted an independent investigation of the GS10 subdrainage. CDPHE’s study is guided by their quality assurance project plan *Reconnaissance Sampling Related to Source Location Investigation of Plutonium and Americium Action Level Exceedances at Point of Evaluation GS10*.

The results of these source evaluations and ongoing analysis presented in the Annual Automated Surface-Water Monitoring Reports for the GS10 subdrainage have not identified a distinct source area requiring an accelerated action. Environmental Restoration (ER) program personnel will further evaluate the South Walnut Creek area between the 750 Pad and Pond B-1 during the second and third quarters of fiscal year (FY) 04 as part of the ER evaluation for Pond B-1.

Recommendation

The findings and conclusions of prior Walnut Creek and GS10 source evaluations suggest that one or more low-level distributed actinide source areas exist within the GS10

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subdrainage. Additionally, Pu/Am activity ratios in the surface water during the reportable events suggest that the suspect low-level actinide source areas are relatively enriched in americium. These source evaluations also concluded that ongoing RFETS activities (i.e., Decontamination and Decommissioning and ER projects, excavations, or other routine operations) did not contribute to increased contamination and reportable values.

In consideration of past source evaluation findings and conclusions, DOE proposes the following in response to these reportable values at GS10:

- (1) Routine monitoring as required by RFCA and the Site Integrated Monitoring Plan will continue.
- (2) Routine data evaluation for GS10 will be included in the Water Year 2002 Automated Surface-Water Monitoring Report.
- (3) Evaluation of the area by ER personnel as part of the characterization of Pond B-1 during the second and third quarters of FY04.
- (4) No additional source evaluation for this area due to this event.

If you have any questions on this transmittal, please contact me at (303) 966-4765 or Glenn Doyle at (303) 966-3087.



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